

A Mariner's Guide to
Marine Weather Services
Coastal, Offshore and High Seas



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Weather Service

NOAA PA 98054



Introduction

Few people are affected more by weather than the mariner. An unexpected change in winds, seas, or visibility can reduce the efficiency of marine operations and threaten the safety of a vessel and its crew. The National Weather Service (NWS), a part of the National Oceanic and Atmospheric Administration (NOAA), provides marine weather warnings and forecasts to serve all mariners who use the waters for livelihood or recreation. This pamphlet describes marine weather services available from the NWS and other agencies.

Warning and Forecast Services

The warning and forecast program is the core of the NWS's responsibility to mariners. Warnings and forecasts help the mariner plan and make decisions protecting life and property. NWS also provides information through weather statements or outlooks that supplement basic warnings and forecasts. The following are the basic marine warning products the NWS offers.

Small Craft Advisory:

Forecast winds of 18 to 33 knots. NWS may also issue Small Craft Advisories for hazardous sea conditions or lower wind speeds that may affect small craft operations.

Gale Warning:

Forecast winds of 34 to 47 knots.

Storm Warning:

Forecast winds of 48 knots or greater.

Tropical Storm Warning:

Forecast winds of 34 to 63 knots associated with a tropical storm.

Hurricane Warning:

Forecast winds of 64 knots or higher associated with a hurricane.

Special Marine Warning:

Potentially hazardous over-water events of short duration (up to 2 hours).

These advisories and warnings are headlined in marine forecasts. (Details are included elsewhere in this brochure.) Small Craft Advisories may be issued up to 12 hours before the onset of adverse conditions and warnings up to 24 hours in advance.

Oceanic Products

Coastal Marine Forecasts

Issued by coastal NWS offices for mariners staying near shore at the following times.

EAST	GULF	WEST	AK	HAWAII
430A	330A	230A	300A	600A
1030A	930A	830A	----	NOON
430P	330P	230P	300P	600P
1030P	930P	830P	----	Midnight

Note: Table is for local standard times. Issuance times are 1 hour later for those states that switch to daylight savings time.

Content and Format

COASTAL MARINE FORECAST
NATIONAL WEATHER SERVICE NEW YORK NY
500 PM EDT MON APR 6 1998

MONTAUK POINT NEW YORK TO SANDY HOOK NEW JERSEY OUT TO 20 NM OFFSHORE
INCLUDING LONG ISLAND SOUND AND NEW YORK HARBOR

.SYNOPSIS...AN INTENSE COLD FRONT WILL MOVE EAST ACROSS THE FORECAST
AREA TONIGHT. A LARGE HIGH PRESSURE SYSTEM OVER QUEBEC WILL MOVE
INTO NEW ENGLAND TONIGHT AND BECOME STATIONARY TUESDAY THROUGH
WEDNESDAY.

ANZ350-355-070230-
COASTAL WATERS FROM LONGITUDE 73 DEGREES WEST TO MONTAUK POINT NY.
COASTAL WATERS FROM SANDY HOOK NJ TO LONGITUDE 73 DEGREES WEST
500 PM EDT MON APR 6 1998

...A GALE WARNING IS IN EFFECT...

.TONIGHT...NORTHWEST WIND 35 KTS DIMINISHING TO 5 TO 15 KTS BY MORNING.
SEAS 12 FT SUBSIDING TO 6 FT BY MORNING. WIDELY SCATTERED THUNDERSTORMS.
.TUE...NORTHWEST WIND 5 TO 15 KTS. SEAS 6 FT DIMINISHING TO 4 FT.
.TUE NIGHT...NORTH WINDS LESS THAN 10 KTS. SEAS 2 FT.
.WED...NORTHEAST WINDS LESS THAN 10 KTS. SEAS 2 FT.

(A 3 TO 5 DAY OUTLOOK IS INCLUDED AT THE END OF THE PRODUCT.)

Offshore Forecasts

Effective times are generally the same as those for coastal forecasts. These forecasts, issued by certain NWS offices, are mainly geared to those mariners operating farther offshore, a day or more from safe harbor.

Offices Issuing Offshore Forecasts

(Issuance times similar to Coastal Marine Forecasts)

Marine Prediction Center...off New England and Mid-Atlantic, off West Coast
Miami...off Southeast US and Caribbean
New Orleans...Gulf of Mexico
Honolulu...off Hawaii
Anchorage...Bering Sea and Gulf of Alaska

Content and Format

OFFSHORE WATERS FORECAST
NATIONAL WEATHER SERVICE WASHINGTON DC
MARINE PREDICTION CENTER/MARINE FORECAST BRANCH
930 AM PDT THU APR 09 1998

CALIFORNIA WATERS FROM 60 NM TO 250 NM OFFSHORE

.SYNOPSIS...A TROUGH OF LOW PRES WILL SWING E THROUGH THE N PORTION
THROUGH FRI. A COLD FRONT WILL SLOWLY MOVE SE THROUGH THE CENTRAL
PORTION TODAY AND THE S PORTION TONIGHT WHERE IT WILL WEAKEN. A SECOND
FRONT WILL MOVE SE THROUGH THE CENTRAL PORTION LATE TONIGHT AND S
PORTION FRI AS A HIGH PRES RIDGE REMAINS IN THE FAR SE PORTION.
SS

PZZ083-092230-
POINT ST GEORGE TO POINT ARENA
.TODAY...W PORTION...W TO SW WINDS 20 TO 30 KT BECOMING W TO NW LATE.
SEAS 10 TO 13 FT.
E PORTION...SW WINDS 15 TO 20 KT. SEAS 8 TO 10 FT. SCATTERED SHOWERS
THROUGHOUT.
.TONIGHT...W PORTION...NW WINDS 20 TO 25 KT BECOMING N LATE.
E PORTION...SW WINDS 15 TO 20 KT BECOMING W LATE.
SEAS 9 TO 13 FT THROUGHOUT. SCATTERED SHOWERS THROUGHOUT.
.FRI...WINDS BECOMING N 15 TO 25 KT THROUGHOUT. HIGHEST WINDS W PORTION.
SEAS SUBSIDING TO 9 TO 13 FT. WIDELY SCATTERED SHOWERS ENDING.

(A 3 TO 5 DAY OUTLOOK IS INCLUDED AT THE END OF THE PRODUCT.)

High Seas Warnings and Forecasts

Forecasts are geared to the needs of the largest ocean-going vessels. Emphasis is placed on gale force or worse conditions.

Issuing Offices - Issuance Times (UTC)

MPC/TPC - WEST ATLANTIC - 0430 1030 1630 2230
MPC/TPC - EAST PACIFIC - 0545 1145 1745 2345
HNL - NORTH PACIFIC - 0445 1045 1645 2245
HNL - SOUTH PACIFIC - 0515 1115 1715 2315
TPC - TROPICAL PREDICTION CENTER, Miami, FL
MPC - MARINE PREDICTION CENTER, Washington, DC
HNL - NWS FORECAST OFFICE, Honolulu, HI

Content and Format

HIGH SEAS FORECAST
NATIONAL WEATHER SERVICE WASHINGTON DC
MARINE PREDICTION CENTER/MFB 1630 UTC APR 10 1998
SUPERSEDED BY NEXT ISSUANCE IN 6 HOURS

SECURITE
NORTH ATLANTIC NORTH OF 31 N TO 67 N AND WEST OF 35 W.
SYNOPSIS VALID 1200 UTC APR 10. FORECAST VALID 0000 UTC APR 13.

WARNINGS

STORM 42N 64W 982 MB WILL MOVE NE 20 KT AND WEAKEN. WINDS 40 TO 55 KT AND SEAS 16 TO 28 FT WITHIN 240 NM OVER THE SE QUADRANT. WIND 25 TO 40 KT SEAS 12 TO 20 FT ELSEWHERE WITHIN 660 NM SE SEMICIRCLE AND 240 NM NW SEMICIRCLE. FORECAST GALE 54N 51W 988 MB. FORECAST WINDS 25 TO 40 KT AND SEAS 12 TO 22 FT WITHIN 780 NM OVER THE E QUADRANT AND 600 NM OVER THE S QUADRANT AND 480 NM ELSEWHERE.

GALE 57N 60W 993 MB WILL MOVE NW 20 KT AND WEAKEN. WINDS 25 TO 35 KT AND SEAS 10 TO 18 FT WITHIN 540 NM NE QUADRANT. FORECAST DISSIPATED.

SYNOPSIS AND FORECAST

LOW 43N 33W 1014 MB WILL DISSIPATE. WINDS 20 TO 30 KT AND SEAS 8 TO 14 FT WITHIN 480 NM N AND NE QUADRANTS. FORECAST DISSIPATED.

FORECAST LOW CENTER NEAR 31N 67W 1009 MB TO MOVE NE 15 KT. WINDS 20 TO 30 KT SEAS 8 TO 14 FT WITHIN 540 NM NW QUADRANT.

HIGH 32N 46W 1024 MB WILL DRIFT E. FORECAST HIGH 34N 40W 1028 MB.

Special Marine Warnings

The NWS issues Special Marine Warnings for potentially hazardous over-water events, usually of short duration (up to 2 hours), not adequately covered by other marine warnings and forecasts. These events include thunderstorms, waterspouts, squalls, wind shifts, and other short-lived conditions. Special Marine Warnings are issued mainly for the coastal waters but may also be issued for offshore areas.

If a tornado or severe thunderstorm is expected to move over coastal waters, NWS issues a Special Marine Warning. If a severe thunderstorm or waterspout is expected to move ashore, NWS issues separate warnings (SVR and/or TOR) for land areas.

Content and Format

BULLETIN - EAS ACTIVATION REQUESTED
SPECIAL MARINE WARNING
NATIONAL WEATHER SERVICE OXNARD CA
250 PM PDT WED AUG 6 1997

THE NATIONAL WEATHER SERVICE IN OXNARD HAS ISSUED A

- * SPECIAL MARINE WARNING FOR...
THE EAST SANTA BARBARA CHANNEL
FROM PT CONCEPTION TO PT MUGU INCLUDING SANTA CRUZ ISLAND
- * UNTIL 400 PM PDT
- * AT 245 PM PDT...THE NATIONAL WEATHER SERVICE DOPPLER RADAR INDICATED STRONG THUNDERSTORMS DEVELOPING BETWEEN OXNARD AND SANTA CRUZ ISLAND...MOVING TO THE NORTHWEST AT 20 MPH.
- * THE THUNDERSTORM THREAT WILL BE GREATEST FROM...OXNARD TO EAST SANTA CRUZ ISLAND BY 300 PM PDT WEST SANTA CRUZ ISLAND TO SANTA BARBARA HARBOR BY 330 PM PDT.

THESE THUNDERSTORMS WILL PRODUCE WIND GUSTS TO 40 KNOTS...ROUGH SEAS AND NEAR ZERO VISIBILITY. BOATERS IN EAST SANTA BARBARA CHANNEL SHOULD TRY TO SEEK SAFE HARBOR.

Marine Weather Statements

Marine Weather Statements are used to follow up the Special Marine Warnings or to provide information on non-severe conditions such as fog.

Hurricane and Tropical Storm Advisories

Hurricane and Tropical Storm Advisories are issued for the Atlantic, Pacific, Gulf of Mexico and Caribbean regions as needed by the Tropical Prediction Center in Miami and the Central Pacific Hurricane Center in Honolulu. These advisories are issued at least four times a day during the tropical cyclone season and extend out to 72 hours.

For the tropical West Pacific (between 130°E and the International Dateline), typhoon and tropical storm advisories are issued when necessary by the Joint Typhoon Warning Center. Tropical Cyclone Public Advisories are issued as needed by the NWS office in Guam.

Hurricane Warnings

Hurricane warnings are issued for forecast winds of 64 knots or higher associated with a hurricane.

Tropical Storm Warnings

Tropical Storm warnings are issued for forecast winds of 34 to 63 knots associated with a tropical storm.

Global Maritime Distress And Safety System (GMDSS)

The goals of GMDSS are to provide more effective and efficient emergency and safety communications and disseminate Maritime Safety Information (MSI) to all ships on the world's oceans regardless of location or atmospheric conditions. MSI includes navigational warnings, meteorological warnings and forecasts, and other urgent safety-related information. NWS takes part directly in the GMDSS by preparing meteorological warnings and forecasts for broadcast via NAVTEX and SafetyNET.

For maps of NAVTEX coverage areas, please refer to <http://www.navcen.uscg.mil/marcomms>.

Marine Reports (MAREP)

The NWS has established a nationwide Marine Report Program (MAREP) to help improve marine warnings and forecasts. Through this cooperative effort, mariners make radio reports of sea and wind conditions to NWS marine forecasters. If you would like to participate or learn more about this volunteer program, please call your local NWS office.

Dissemination Of Marine Weather Products

Marine weather products are widely disseminated via U.S. Coast Guard (USCG) broadcasts, NOAA Weather Radio, Internet and other media. Schedules for marine broadcasts are listed in NIMA Publication 117 and NWS Marine Weather Service Charts, available at your local National Ocean Service chart agent. Details on the dissemination of NWS marine products may be found on the Marine Product Dissemination Information Web Page.

NOAA Weather Radio (NWR):

The NWR network provides voice broadcasts of coastal and marine forecasts on a continuous cycle. This network covers nearly all of the continental United States, Hawaii, the populated Alaskan coastline, Puerto Rico and the Virgin Islands, and Guam and the Northern Mariana Islands. Typical coverage is 25 nm offshore. When severe weather threatens, an alarm tone is sent to automatically turn on compatible NWR receivers in the transmitter's coverage area.

NOAA Telephone Recordings

Many NWS forecast offices offer recorded marine and local forecasts by telephone. The numbers are usually listed in the telephone directory under "United States Government, Commerce Department, National Weather Service."

NOAA HF VOICE

NOAA broadcasts offshore forecasts, coastal waters forecasts and storm warnings on 4125 kHz in Alaska.

USCG HF Radiofax

The USCG broadcasts high seas weather maps, sea surface temperature maps, and text forecasts over HF radiofax. Transmitter sites are located at Boston (NMF), New Orleans (NMG), Kodiak (NOJ), Pt. Reyes (NMC), and Honolulu (KVM-70).

USCG VHF VOICE

USCG broadcasts coastal waters forecasts and storm warnings on VHF Channel 22A after an initial call on VHF Channel 16. The USCG VHF network provides near-continuous coverage of continental US coastline, Hawaii, the populated Alaskan coastline, Puerto Rico and the Virgin Islands, and Guam and the Northern Mariana Islands. Typical coverage is 25 nm offshore.

USCG MF VOICE

USCG broadcasts offshore forecasts and storm warnings on 2670 kHz following an initial call on 2182 kHz.

USCG HF Voice

USCG voice broadcast of high seas forecasts. Limited offshore forecasts also are available.

USCG SITOR (NBDFP)

Also known as Narrow Band Direct Printing is a text broadcast of high seas forecast. Limited offshore forecasts are also available.

NAVTEX

NAVTEX is a USCG broadcast of offshore warnings and forecasts in text form. Limited coastal forecasts are also available. Typical coverage is 200 nm offshore.

INMARSAT-C SafetyNET

This is a broadcast of Maritime Safety Information that includes high seas weather.

WWV and WWVH (time tick)

A summary of Atlantic and Pacific high seas storm information.

Web Sites of Interest

- ◆ NOAA Home Page: <http://www.noaa.gov>
- ◆ NWS Home Page: <http://www.nws.noaa.gov>
- ◆ NOS Home Page: <http://www.nos.noaa.gov>
- ◆ Marine Product Dissemination Home Page: <http://www.nws.noaa.gov/om/marine/home.htm>
- ◆ USCG Home Page: <http://www.uscg.mil>
- ◆ USCG Navigation Center: <http://www.navcen.uscg.mil/marcomms> (Excellent description of marine communications)

DIAL-A-BUOY

Mariners can obtain the latest coastal and offshore weather observations through a telephone service called Dial-A-Buoy. This service provides wind and wave measurements taken within the last hour at stations located in the Atlantic, Pacific, Gulf of Mexico, and Great Lakes. To access Dial-a-Buoy, dial **228/688-1948** using a touch tone or cellular phone. Enter the five-digit station identifier when prompted. The Dial-a-Buoy menu tree has a selection for the caller to receive a map of buoy station identifiers via return call fax. Station identifiers can also be obtained at the following web site: <http://seaboard.ndbc.noaa.gov>.

Marine Weather Service Charts

MSC charts are available for 15 segments of the continental United States, Alaska, Hawaii, Puerto Rico and the Virgin Islands, and Guam and the Northern Mariana Islands, and the Great Lakes. These charts are regularly updated.

MSC charts contain maps of the area including locations of NWR transmitters, USCG stations, and marine observation sites; helpful information such as locations, times, and frequencies of marine broadcasts; and NWS telephone numbers. MSC charts can be purchased from:

National Ocean Service
Distribution Division (N/ACC3)
Riverside, MD 20737-1199
Telephone: **301-436-8301**

MSC charts can also be found on-line at <http://www.nws.noaa.gov/om/marine/pub.htm>.

The NWS publishes Marine Weather Service Charts for the following segments of the US coastline.

MSC-1	Eastport, ME to Montauk Point, NY
MSC-2	Montauk Point, NY to Manasquan, NJ
MSC-3	Manasquan, NJ to Cape Hatteras, NC
MSC-4	Cape Hatteras, NC to Savannah, GA
MSC-5	Savannah, GA to Apalachicola, FL
MSC-6	Apalachicola, FL to Morgan City, LA
MSC-7	Morgan City, LA to Brownsville, TX
MSC-8	Mexican Border to Pt. Conception, CA
MSC-9	Pt. Conception to Pt. St. George, CA
MSC-10	Pt. St. George, CA to Canadian Border
MSC-11/12	Great Lakes
MSC-13	Hawaii Waters
MSC-14	Puerto Rico and Virgin Islands
MSC-14S	Puerto Rico and Virgin Islands (Spanish)*
MSC-15	Alaska Waters
MSC-16	Guam and the Northern Mariana Islands

*planned

For boating safety weather rules, see Safe Boating Weather Tips (NOAA PA 94058) at <http://www.nws.noaa.gov/om/nwspub.htm>.